

RTBfoods Step 1: State of Knowledge (SoK) Guidance Document

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Ethics: The activities, which led to the production of this manual, were assessed and approved by the CIRAD Ethics Committee (H2020 ethics self-assessment procedure). When relevant, samples were prepared according to good hygiene and manufacturing practices. When external participants were involved in an activity, they were priorly informed about the objective of the activity and explained that their participation was entirely voluntary, that they could stop the interview at any point and that their responses would be anonymous and securely stored by the research team for research purposes. Written consent (signature) was systematically sought from sensory panelists and from consumers participating in activities.

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State of Knowledge guidance document

Introduction

This State of Knowledge guidance document describes the first of five steps in an interdisciplinary and participatory methodology to develop food product profiles of quality characteristics. The manual is structured in three modules:

- I. Food science (to be completed by (or with) a food scientist)
- II. Gender and socio-cultural context (to be completed by (or with) a gender specialist)
- III. Demand (to be completed by (or with) an economist)

Each SoK module is structured in the following way:

- Research questions
- Methods
- Expected outputs
- *Recommended* templates for:
 - Key informant interviews
 - Document review
 - Synthesis report

The starting point for this guidance document is the product. However, the gender and socio-cultural context module will bring in issues around the broader context, including around the crop, and the food science module will examine characteristics of the raw material and the product.

It is recommended for the review to focus solely on the product and the country of focus, except in circumstances where there is little information available.

It is expected that there will be significant variability on the information available on products.

- If there is a large volume of literature the team can identify existing literature reviews and summarise their findings.
- If there is too little literature the team can conduct more key informant interviews or use key literature from other countries but explaining how it is relevant to your context.

1. MODULE I: FOOD SCIENCE SoK

1.1. Introduction to food science SoK

The research questions for the food science module are:

1. What are the quality characteristics of the raw material that will give a high quality (or low quality) product noting differences between processing methods, regions, ethnicity etc.?
2. What are the key processing steps that will give a high quality product noting differences between processing methods, regions, ethnicity etc.?
3. What are the quality characteristics of the raw material required at each stage of the processing (peeling, rasping, fermenting, boiling, roasting...) to make a high quality final product?
4. What are the quality characteristics of a high quality final product?

The table below presents the types of characteristics to be identified through this module along the product chain:

Quality characteristics of the Raw material		Quality characteristics of the Final product	
<i>Morphological, post-harvest, technological, physicochemical</i>		<i>Sensory, physicochemical</i>	
When buying or harvesting	At each step of the process	In the plate	In the mouth
Regarding the appearance, age, odour, texture when touching, taste when biting	Regarding processing ability of the raw material or behaviour of the intermediate product during processing (peeling, cooking, pounding...)	Regarding the appearance, odour, texture between fingers	Regarding taste, texture in the mouth, aroma, aftertaste

1.2. Methods for food science SoK

Methods are **desk-based**.

1.2.1. Key informant interviews (8 minimum)

- Identify key informants – individuals who are knowledgeable of the quality characteristics of *your product in your county*. For example:
 - From your institution or partner institutions from a breeding, food science or socio-economic background – including yourself!
 - Key informants such as the head of a marketing/consumer board/association, processor and farmer association, employees at Ministry of Agriculture, etc. that can provide insight from a breeding, food science, or producer/processor/consumer perspective.
 - Include representation from different disciplines, backgrounds, sexes, ages etc.
- Conduct the interviews using the template provided to guide the discussion and recording of information (1.4 Template: food science key informant interview).

1.2.2. Document review (approx. 10)

- Identify documents on the raw material (for making a high quality product), on the processing, and of the final product in your focus country, including:
 - 'grey' literature (e.g., published or unpublished documents including theses, project reports, interim and final project evaluations, studies by national or international research institutions).
 - peer-reviewed literature
- Focus on documents from the past ten years. However, there may be important documents on your product outside of this date range. If so, include the document in the review and note on the table why it was included. Having a set time period for literature searches, and recording justification for including literature outside the timeframe, adds a systematic element and greater rigour to conducting a document review – and is good practice.
- The following search engines are useful to identify documents:
 - Google (grey literature)
 - Google scholar
 - Swetswise
 - Web of Science
 - Musalit, etc.
- The following search terms may be useful for the search:

Quality characteristic

Quality criteria

Quality trait

Sensory

Descriptor

Attribute

Consumer, consumption, consumer testing

Acceptability, Acceptance

Preference(s)

Processing ability

Physicochemical

Technological properties

Product (gari, fufu, boiled yam, boiled cassava, boiled sweet potatoe, boiled plantain, pounded yam, attieke, matooke)

Food chain

New genotypes (that one may give too many papers...)

With:

Gender

Women(men)

Focus group discussion

Individual interview

- Review the document using the template provided. Save documents and completed template in the Dropbox folder relevant to your country and product (a link will be sent to you via email) (1.5 Template: food science document + data review).

1.2.3. Synthesis Report

- Summarise findings from the key informant interviews and document review using the report template (1.6 Template: Food science SoK reporting).

1.3. Expected outputs for food science SoK

- Key informant and document templates
 - Synthesis report (1.6 Template: Food science SoK reporting)

1.4. Template: food science key informant interview

Consent: Informed, written consent will be obtained by all participants prior to participation in the study. A study research team member will read the Participant Information Sheet in the local language where relevant. Participants are encouraged to ask any questions they may have. Participants are then asked if they give their consent to participate (if in agreement) by putting their signature or thumbprint on the consent form (Appendix A: Information and consent for key informant interviews).

Instruction: complete one template per interview **Key informant information**

1.1 Consent to participate in interview (Y/N) <i>If no, terminate interview</i>		1.4 Job title	
1.2 Name		1.5 Institution - programme	
1.3 Gender		1.6 Experience regarding the product and/or your organisation	

1. Quality characteristics of the Raw material

2.1 What are the characteristics of the raw material that will give a high quality product? <i>Morphological, post-harvest, technological, physicochemical</i> e.g. Appearance, age, odour, texture when touching, taste when biting	2.2 Are there differences in the quality characteristic by region, processing method, ethnicity, gender, etc.?	2.3 What evidence or experience do you have that would substantiate this? (Ensure to collect any written evidence or recommendations of information sources)	2.4 What are the most important quality characteristics documented? <i>Specify for whom, where, etc.</i>

2. Quality characteristics of the raw material during processing

3.1 What are the different processing stages to make the product?	3.2 What are the quality characteristics of the raw material at each step of the process for making the final product? <i>technological, physicochemical characteristics</i> Processing ability of the raw material or behaviour of the intermediate product during processing (peeling, cooking, pounding...)	3.3 Are there differences in the quality characteristic by region, processing method, ethnicity, gender etc.? <i>(you may want to add extra rows to show differences)</i>	3.4 What evidence or experience do you have that would substantiate this? <i>(ensure to collect any written evidence or recommendations of information sources)</i>	3.5 What are the most important quality characteristics documented? <i>Specify for whom, where etc.</i>
1.				
2.				
3.				
4.				
5.				
6.				
7.				

3. Quality characteristics of the final product

4.1 What are the qualities characteristics of a high quality final product Regarding its appearance, odour, texture between fingers, taste, texture in mouth, aroma, aftertaste	4.2 Are there differences in the quality characteristics by region, processing method, ethnicity, gender etc.? <i>(you may want to add extra rows to show differences)</i>	4.3 What evidence or experience do you have that would substantiate this? <i>(ensure to collect any written evidence or recommendations of information sources)</i>	4.4 What are the most important quality characteristics documented? <i>Specify for whom, where etc.</i>
1.			
2.			
3.			
4.			
5.			
6.			
7.			

4. Other information of note:

Use this space as an opportunity to record findings relevant to other modules such as the gender and socio-economic context (including its influence on preferences) and product demand.

1.5. Template: food science document + data review

Instruction: complete one template for all documents reviewed including as much of the information as possible. Add as many rows as necessary or move to Excel if easier.

1. Document citation log

1.1 Citation	1.2 Country and region of focus

2. Other information of note:

Use this space as an opportunity to record findings relevant to other modules such as the gender and socio-economic context (including its influence on preferences) and product demand. Include reference to papers that exist on products but which might partially include similar steps of processing to the product of focus. These articles can also be indicative if a certain quality characteristic is important for the product.

3. Document review

Note: always disaggregate data between by gender and other factors of social difference where available

Source (first author, year)	Methodology Consultation: •Focus groups, Sex disaggregated data presented (y/n): number, gender, region, user group •Individual interviews, Sex disaggregated data presented (y/n): number, gender, region, user group Processing steps to make the product Other methods of note Sensory evaluation e.g. QDA, Panel, Number panellist + number of products Consumer testing (Hedonic test – or specify other consumer tests, Number of consumers by gender, region, user group, Number of products)	Quality characteristics of the raw material that make a good product <i>Post-harvest, morphological, physicochemical characteristics</i> Regarding its Appearance, Age, Odour, Texture when touching, Taste or texture when biting	Quality characteristics of the raw material during processing		Quality characteristics of the final product <i>Physical, chemical, nutritional, sensory characteristics</i> Regarding its appearance, odour, texture between fingers, taste, texture in mouth, aroma, aftertaste	Comment on your level of confidence in the paper
			Processing stages to make the product	Quality characteristics of the raw material at each step of the process to the final product <i>Technological, Physical and chemical characteristics</i>		

1.6. Template: Food science SoK reporting

Note: Citations are very important – please use in-text citations throughout the report. If the characteristic is cited by a number of resources and interviews we can be more confident in the finding.

Note: always disaggregate data by gender and other factors of social difference where possible

1. Describe the methodology, sample of key informants and the documents reviewed. Consider the literature as a whole, note any gaps in information, e.g. lack of gender-disaggregated data, data from a particular region, consumer data etc.
2. Summarise in a narrative the description of the raw material characteristics that will give a good product identified in key informant interviews and documents using in-text citations. Note differences on processing method, gender, region, ethnicity etc.
3. Summarise the quality characteristics of the raw material at each step of processing to the final product, identified in the key informant interviews and by authors, using in-text citations. Note differences on processing method, gender, region, ethnicity etc.
4. Summarise the quality characteristics of the final product identified in the key informant interviews and by authors using in-text citations. Note differences on processing method, gender, region, ethnicity etc.
5. Comment on your level of confidence in the information you reviewed, e.g. assessing research findings given the methodology and sampling frame, gender disaggregation.
6. Include any other information relevant to other modules (gender and socio-economic context and product demand, or relevant findings from papers that exist on other products).

7. Overview table of quality characteristics

	Quality characteristics to achieve a good product * specify variation with process/region/user group – complete multiple tables if necessary	Mean ranges for the quality characteristics (from literature if available)	Evidence to substantiate (refer to interviews and/or add citation sources)	Your confidence in the information (low, med, high) + reason
Raw material				
Processing/Preparation steps				
1				
2				
3				
....				
Final product				

2. MODULE II: GENDER AND SOCIO-CULTURAL CONTEXT SoK

2.1. Introduction to gender and socio-cultural context SoK

The aim of this module is to collect information on the gender and socio-cultural context of the product, drawing on Gender Dimensions Framework (Rubin et al, 2009). The objective is to start to develop user profiles for the crop and product along the product chain, and identify the gender dimensions at each stage. *Users* refers to all people who use the crop or its product(s) (production, processing, trade, consumption), for food, income or other purposes. *Use* refers to all uses or products from the crop. Collecting information on *all uses* of the crop will allow us to understand gender differences among products from the crop, and possible trade-offs between preferences (e.g. men may prefer high starch content for cassava to sell to factory, which is work under their control, whereas women may prefer other characteristics important for gari making, which is a product that can be more under women's control). This will help us develop social targeting methods to consult about product preferences, identify the factors that influence preferences and broader adoption and decision making practices.

The research questions for the gender and socio-cultural context module are:

1. What are the agronomic norms and practices of the crop (e.g. intercropping with X, Y and Z, rotation, separate male/female plots etc.) in different regions of the country?
2. Have new varieties of the crop associated with the product been introduced in the country and is there expertise or evidence on the factors influencing adoption in this context?
3. What are the different uses and products of the crop?
4. What are the Gender Dimensions of the product value chain (refer to framework below) and the main alternative uses or products of the crop?
5. Are there trade-offs between different uses of the crop? Does this affect different groups of people's participation, workload and benefit from the crop/product?

The table below presents the Gender Dimensions Framework (Rubin, et al 2009) for crop and product use for information purposes

Type of Crop Use (including but not only the product of focus)	Practices and Participation	Resources	Beliefs and Perceptions
<p>Reflecting the main food and value chains (consulting with the demand study),</p> <p>e.g. sold raw, sold processed, consumed processed, consumed raw</p>	<p>Who is involved, including roles and responsibilities?</p> <p>What are the alternative uses of the crop, who is involved and who benefits from the activity, use or product?</p>	<p>What resources are required to grow the crop and produce the product?</p> <ul style="list-style-type: none"> • Knowledge (who knows what) • Natural and productive resources • Income • Services • Employment • Information • Benefits 	<p>What are the beliefs that shape roles and responsibilities of different people in the activities, including growing and consuming the crop?</p> <p>E.g. Men's legs will swell if they process cassava; processing cassava is women's work. Women cannot step on to a man's yam field.</p>
	Laws, Legal Rights, Policies, and Institutions	Power	Gender-based constraints and opportunities (GBC + GBOs)
	<p>How does the law, policy, customary and other institutions support, enable (or not) the participation of women and other groups (including access to resources) in crop and product markets and consumption?</p>	<p>Who has control/decision-making power, over the activity, use or product? Who benefits?</p> <p>Do women need to ask permission, do they consult, or do all activities independently?</p>	<p>GBCs: factors that inhibit men's or women's access to resources, behaviour and participation, time use, mobility, rights, and exercise of power based on their gender identity.</p> <p>GBOs: structural and institutional factors that facilitate women's and men's equitable access to resources, behaviour and participation, time use, mobility, rights, and exercise of power</p>

2.2. Methods for the gender and socio-cultural context SoK

Methods are **desk-based**. They should be conducted by (or with the input of) a gender specialist.

2.2.1. Key informant interviews (8 minimum)

- Identify key informants – individuals who are knowledgeable of the gender and socio-cultural context *of your product in your country*. For example:
 - From your institution or partner institutions– including yourself!
 - Key informants such as the Gender in Agriculture lead; women's organisations, advocates and NGO's; women's producer and processing organisations; Ministry of Agriculture, Livelihoods specialists, lead of producer and processor organisations
 - Include representation from different disciplines, backgrounds, ages etc.
- Conduct interview using the template provided to guide the discussion and recording of information (2.4 Template: gender and socio-cultural context key informant interview).

2.2.2. Document + data review (approx. 10)

- Identify documents on gender and socio-cultural context of your product in your focus country, including:
 - 'grey' literature (e.g., published or unpublished documents including theses, project reports, interim and final project evaluations, studies by national or international research institutions).
 - peer-reviewed literature
- Focus on documents from the past ten years. However, there may be important documents on your product outside of this date range. If so, include the document in the review and note on the table why it was included. Having a set time period for literature searches, and recording justification for including literature outside the timeframe, adds a systematic element and greater rigour to conducting a document review – and is good practice.
- The following search engines are useful to identify documents:
 - Google (grey literature)
 - Google scholar
 - Swetswise
 - Web of Science
 - Musalit, etc.
- Consult your country's Demographic Health Survey (DHS), Women's Empowerment in Agriculture (WEIA) Index, FAO land portal to provide context, if available.
- Examine sex-disaggregated quantitative data to identify notable issues and patterns; identify the principal practices that are producing the issues; and analyse the gender relations that shape these practices.
- Review the document using the template provided. Save documents and completed template in the Dropbox folder relevant to your country and product (a link will be sent to you via email) (2.5 Template: gender and socio-cultural context document + data review).

2.2.3. Synthesis Report

Summarise findings from the key informant interviews and document review using the report template (2.6 Template: gender and socio-cultural context report).

2.3. Expected outputs for the gender and socio-cultural context SoK

Expected outputs to be completed by 31 March, 2018, to be used at the capacity building workshop.

- Key informant and document template
- Short report and table summarising findings (2.6 Template: gender and socio-cultural context report).

2.4. Template: gender and socio-cultural context key informant interview

Instruction: complete one template per interview. The questions will need to be tailored to the experience and expertise of the key informant; therefore, it may not be necessary or applicable to answer all the questions with each interview.

Consent: Informed, written consent will be obtained by all participants prior to participation in the study. A study research team member will read the Participant Information Sheet in the local language where relevant. Participants are encouraged to ask any questions they may have. Participants are then asked if they give their consent to participate (if in agreement) by putting their signature or thumbprint on the consent form (Appendix A: Information and consent for key informant interviews).

1. Key informant information

1.1 Consent to participate in interview (Y/N) If no, terminate interview		1.4 Job title	
1.2 Name		1.5 Institution and programme	
1.3 Gender		1.6 Describe experience with the product/context and number of years	

2. User dynamics

Question	Response	What evidence or experience do you have that would substantiate this? (ensure to collect any written evidence or recommendations of information sources)
2.1 Have new varieties of the crop been introduced in the country? What was the experience of adoption of this variety/varieties by producers? Were there differences among the population? Please describe.		
2.2 What are the agronomic norms and practices of the crop (e.g. intercropping with X, Y and z, rotation, separate male/female plots etc) in the country?		

2.3 Question	Response	<p>What evidence or experience do you have that would substantiate this?</p> <p>(ensure to collect any written evidence or recommendations of information sources)</p>
<p>2.4 Who is involved in the labour in production, processing/preparation, selling and consumption, of each of the different uses of the crop? <i>e.g. probe from a gender and social difference (e.g. age, ethnicity etc.) perspective</i></p>		
<p>2.5 What are the crop uses that are primarily under women's control?</p>		
<p>2.6 What are the crop uses that are primarily under men's control?</p>		
<p>2.7 Broadly, who benefits from the production, processing/preparation, selling and consumption, of each of the different uses? <i>e.g. probe from a gender and social difference (e.g. age, ethnicity etc.) perspective</i></p>		
<p>2.8 What are the resources required for production, processing/preparation, selling and consumption of the crop/products? Are there different levels of access for certain groups? Please describe.</p>		
<p>2.9 What are the norms, beliefs and perceptions that you believe are behind these different roles and levels of access?</p>		
<p>2.10 Have you noted any trade-offs among different uses of the crop? Does this affect different groups of people's participation and benefit from the crop/product?</p>		

Question	Response	What evidence or experience do you have that would substantiate this? (ensure to collect any written evidence or recommendations of information sources)
2.11 Are there any laws, policies, institutions (including farmer/processing groups) that influence how (what products), who or where the crop is used? Does this affect the participation and benefit of certain groups?		
2.12 What are the gender-based constraints and opportunities women, men and other social groups experience with the product?		

3. Other information of note:

Use this space as an opportunity to record findings relevant to other modules such as food science and product demand.

2.5. Template: gender and socio-cultural context document + data review

Instruction: complete one template for all documents reviewed including as much of the information as possible. Add as many rows as necessary or move to Excel if easier.

1. Document citation log

1.1 Citation	1.2 Country and region of focus

2. Document review

Note: always disaggregate data between by gender and other factors of social difference where available

Source (first author, year)								
Methodology Focus groups, individual interviews Sex disaggregated data presented (y/n) Specify: number, gender, region, or other user groups Ethnography, Participant observation, Participatory Varietal Selection, Participatory Rural Appraisal Other: Describe								
Agronomic practices and past experiences of adoption relevant to the product								
Use of crop								
Who is involved in the production, processing and sale of the product								
Who benefits from the production, processing and sale of the product								
What are the uses primarily under women's control (W) and men's control (M)								
What resources are required for the production, processing and sale of the product								
What are the differences in levels of access to resources for certain groups								
Beliefs and perceptions, policies and laws, that influence practices associated with the crop and product and levels of access to resources for the crop and product								
Possible trade-offs for people in use of the crop and benefits								
Gender based constraints								
Gender based opportunities								
Comment on your level of confidence in the								

3. Other information of note:

Use this space as an opportunity to record findings relevant to other modules such as food science and product demand.

2.6. Template: gender and socio-cultural context report

Note: Citations are very important – please use in text citations throughout the report. If the characteristic is cited by a number of resources and interviews we can be more confident in the finding.

1. Describe the methodology, sample of key informants and the documents reviewed. Comment on any gaps in information.
2. Summarise in a narrative the quantitative data and qualitative data under each research question, using in-text citations. Note any geographic, ethnic, gender or other variances.
 - Agronomic practices and past experiences of adoption relevant to the product
 - Uses of the crop
 - Gender (and social difference) Dimensions Framework findings
 - Participation and practices of the different uses (*you may want to draw on WEIA Index here*)
 - Labour
 - Benefit
 - Resources associated with the different uses and levels of access
 - Norms, beliefs and perceptions influencing roles and access
 - Laws, policies, institutions influencing crop use, participation and benefit
 - Possible trade-offs for people in use of the crop and benefits
 - Gender based constraints and opportunities
3. Comment on your level of confidence in the information you reviewed. E.g. assessing research findings given the methodology and sampling frame.

Include any other information relevant to other modules (food science and product demand, or relevant findings from papers that are outside the scope of your country).

3. MODULE III: DEMAND SoK

3.1. Introduction to demand SoK

The aim of the Demand SoK is to understand the demand for the product, drawing on a Segmenting-Targeting-Positioning (STP) Framework. The objectives are to identify different *demand segments* for the product, define for whom and where the demand for the product is, and the characteristics associated with preferences for the product. A *demand segment* refers to a relatively homogenous group of consumers with a unique set of preferences (e.g. men from Delta region may have particular preferences for boiled yam). Importantly, a demand segment includes consumers who pay money for the product and those who may grow the crop and prepare the product at home for family consumption. The demand SoK will assist in developing demand segment profiles to collect preferences throughout the fieldwork.

The research questions for the demand module are:

1. What are the demand and trends in demand for the product, from people who pay for the product and make and consume it themselves?
 - a. What are the different demand segments associated with the product?
 - b. What are the size of the different demand segments and what are the trends for the product?
 - c. What are the geographical and demographic characteristics of the demand segments for the product?
2. How do the demand segments correspond to preferred characteristics for the product (e.g. *landless men in the SE are demanding early maturing cassava that makes extra white gari*)?
3. How is the product transported, stored and sold, and by whom (e.g. gender, socio-economic status, age, region etc.)?

3.2. Methods for the demand SoK

Methods are **desk-based**. They should be conducted by (or with the input of) an economist.

3.2.1. Key informant interviews (8 minimum)

- Identify key informants – individuals who are knowledgeable of the demand and markets *for your product in your county*. For example:
 - From your institution or partner institutions– including yourself!
 - Key informants such as the head of a marketing/consumer board/association, processor and farmer association, employees at ministry of agriculture etc. that can provide insight from a breeding, food science, or producer/processor/consumer perspective.
 - Include representation from different disciplines, backgrounds, ages etc.
- Conduct interview using the template provided to guide the discussion and recording of information (3.4 Template: demand key informant interview).

3.2.2. Document + data review (approx. 10)

- Identify documents on the demand for the product in your focus country, including:
 - ‘grey’ literature (e.g., published or unpublished documents including theses, project reports, interim and final project evaluations, studies by national or international research institutions).
 - peer-reviewed literature

- Focus on documents from the past ten years. However, there may be important documents on your product outside of this date range. If so, include the document in the review and note on the table why it was included. Having a set time period for literature searches, and recording justification for including literature outside the timeframe, adds a systematic element and greater rigour to conducting a document review – and is good practice.
- The following search engines are useful to identify documents:
 - Google (grey literature)
 - Google scholar
 - Swetswise
 - Web of Science
 - Musalit, etc.
- To collect data on the size and trends in market, have a look at consumer databases such as the Living Standards Measurement Survey (LSMS), Demographic Health Survey (DHS) and Target Group Index. For example, the CIAT Bean Programme used LSMS for Kenya to target the urban/middle class market and participation to learn about preferences for pre-cooked beans.
- Review the document using the template provided. Save documents and completed template in the Dropbox folder relevant to your country and product (a link will be sent to you via email (3.5 Template: demand document + data review)).

3.2.3. Synthesis Report

Summarise findings from the key informant interviews and document review using the report template (3.6 Template: demand report)

3.3. Expected outputs for the demand SoK

Expected outputs are:

- Key informant and document templates
- Product Map showing where a product is predominantly produced and consumed (to help select research sites for subsequent activities)
- Synthesis report (3.6 Template: demand report)

3.4. Template: demand key informant interview

Instruction: complete one template per interview

Consent: Informed, written consent should be obtained by all participants prior to participation in the study. A study research team member will read the Participant Information Sheet in the local language where relevant. Participants are encouraged to ask any questions they may have. Participants are then asked if they give their consent to participate (if in agreement) by putting their signature or thumbprint on the consent form (Appendix A: Information and consent for key informant interviews).

1. Key informant information

1.1 Consent to participate in interview (Y/N) If no, terminate interview		1.4 Job title	
1.2 Name		1.5 Institution/programme	
1.3 Gender		1.6 Describe experience regarding product and number of years	

2. Product demand

	Responses of key informant	Evidence to substantiate (e.g. project report, peer reviewed literature, databases) (ensure to collect any written evidence or recommendations of information sources)
2.1 What is the scale of production of the crop associated with the product?		
2.2 Are there different variations of the product?		
2.3 What are the different user demand segments associated with the product (both purchased markets and prepared at home)?		
2.4 What are the size and trends of the demand segment associated with the product? <i>(note their opinion, and the reason for it, along with any documents that evidence the statements)</i>		

	Responses of key informant	Evidence to substantiate (e.g. project report, peer reviewed literature, databases) (ensure to collect any written evidence or recommendations of information sources)
2.5 Where are the characteristics of the demand segments (geographical, agroecological) for the product and its variations?		
2.6 What are the demographics of the demand segments (age, gender marital status) for the product?		
2.7 How do the demand segments correspond to preferred characteristics for the product (e.g. <i>landless men in the SE are demanding early maturing cassava that makes extra white gari</i>)?		
2.8 What is the product chain and how is the product transported, stored and sold, and by whom (e.g. gender, socio-economic status, age, region etc.)?		
2.9 What is the profitability of the product, by demand segment? <i>(note their opinion, and the reason for it, along with any documents that evidence the statements)</i>		

3. Other information of note:

Use this space as an opportunity to record findings relevant to other modules such as food science and gender and socio-cultural context.

3.5. Template: demand document + data review

Instruction: complete one template for all documents reviewed including as much of the information as possible. Add as many rows as necessary or move to Excel if easier.

1. Document citation log

Add as many rows as necessary.

1.1 Citation	1.2 Country and region of focus

2. Document review

Note: always disaggregate data between by gender and other factors of social difference where available

[illegible]

4. Other information of note:

Use this space as an opportunity to record findings relevant to other modules such as food science and gender and socio-cultural context ..

3.6. Template: demand report

Note: Citations are very important – please use in-text citations throughout the report. If the characteristic is cited by a number of resources and interviews we can be more confident in the finding.

Note: always disaggregate data between by gender and other factors of social difference where information is available

1. Describe the methodology, sample of key informants and the documents reviewed. Comment on any gaps in information.
2. Summarise the description in a narrative using in-text citations (e.g. the number of interviews, the authors surname(s) and year of publication)
 - Scale of production of the crop, and seasonality, associated with the product
 - Variations of the products
 - Status and trends of demand for the product (both purchased markets and prepared at home)
 - Different demand segments associated with the product
 - Size and trends of the demand segment associated with the product
 - Geographic and agro-ecological context of demand segments for the product
 - Demographics of the demand segments (demographics – age, gender marital status) for the product
 - Description of the product chain including how the product is processed, prepared transported, stored and sold and by whom (e.g. gender, socio-economic status, age, region etc.)
 - Note any geographic, ethnic, gender or other variances.
3. Comment on your level of confidence in the information you reviewed, e.g. assessing research findings given the methodology and sampling frame.
4. Include any other information relevant to other modules (food science and gender and socio-cultural context), or relevant findings from papers that exist on other products.
5. If possible, a Product Map indicating where the demand segments of the product are located in the country.

8. Overview table of Product Demand Segments and preferred characteristics for the product (one for each variation of the product if significantly different)

Demand segment (producers, processors, traders, consumers who buy the product and people who grow, prepare and consume the product at home)	Characteristics preferred by demand segment	Size of demand segment	Profitability /value of the product by demand segment	Geographic + agroecological location	Description of demographics of demand segment (socio-economic status, gender, age etc).	Areas of growth potential and evidence to support

APPENDIX A: INFORMATION AND CONSENT FOR KEY INFORMANT INTERVIEWS

[Name of institution] is currently conducting an introductory study on root, tuber and banana preferences to inform breeding programmes in a project entitled RTBfoods. The aim of the project is to identify the preferred characteristics of [product] in [country] among producers, processors, consumers, and other user groups (what makes a good product). This interview is part of an initial study interviewing key individuals to gain a better understanding of preferences for the product, product markets, and the context of these products in people's lives. You were selected for a key informant interview based on your experience and expertise regarding our study. The interview will take approximately 30-40 minutes and is entirely voluntary.

There are three themes to this study. You may be interviewed for one or more of these themes depending on your experience. These themes are food science, gender and social context, and demand study. You will be interviewed for [module]. Each have different questions, but aim to understand different preferences of the [crop] and [product]. Importantly, we would also like to identify if preferences for certain product characteristics vary by geography, processing methods, gender, age, socio-economic status, ethnicity or other variables.

The research questions are:

Food science	Gender and social context	Demand (market)
1. The characteristics of the raw material that will give a good product 2. The key steps in processing and preparation that will give a good product 3. The known quality characteristics of the raw material associated with each stage of processing and preparation, to the final product 4. The known quality characteristics of the final product	1. Agronomic practices and past experiences of adoption relevant to the product 2. How the crop is used, by whom, and with what resources 3. Beliefs and perceptions, policies and laws, that influence practices associated with the crop and product 4. Possible trade-offs for people, in use of the crop and its benefits 5. Gender-based constraints and opportunities	1. The demand and trends in demand for the product – from people who pay for the product and those who make and consume it themselves 2. Who and where the product is purchased, prepared and consumed -- at home or in the market 3. The preferred characteristics of the product associated with the demand 4. How and to whom the product is transported, stored and sold

Taking part in this research study is completely voluntary. You may choose not to take part at all. If you decide to be in this study, you may stop participating at any time. You are not under any obligation to answer any questions that you are not comfortable with. Furthermore, because you were selected as for this interview due to your expertise, we would like to include your name and institution on a list of key informants interviewed. However, please let us know if you would like your name to be excluded.

Please complete the information below if you consent to participating in the interview.

Print name	Date
Signature	Researcher's signature
Institution	



Institution: Cirad – UMR QualiSud

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